

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) Pacifico, C. Examiner: Lien Tran  
Serial No.: 09/924,017 Group Art Unit: 1761  
Confirmation No.: 3051 Docket: 1001-3  
Filed: August 7, 2001 Dated: July 30, 2003  
For: CHEMICAL LEAVENING  
INGREDIENT

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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*On: July 30, 2003*

*By: Barbara Kemmlein//*

DECLARATION OF CARL J. PACIFICO  
PURSUANT TO 37 C.F.R. 1.132

1. I am the inventor of the subject matter of U.S. Serial No. 09/924,017 entitled "CHEMICAL LEAVENING INGREDIENT." I am making this declaration in order to accurately describe the prior art and in support of the patentability of the claimed invention.
2. By way of background, I received a bachelor's degree in Chemistry from Western Maryland College, and I received a Master's in business administration from Loyola College.
3. I have worked in the field of food sciences for 18 years. More particularly, I have worked in the field of encapsulated ingredients for Balchem Corporation for those 18 years, my work has led to the issuance of US Patent No. 6,251,478, as well as numerous publications including

“Enough is Enough”, Food Beverage Asia, Dec. 2002. I have thorough read the Examiner’s Office Action date May 27, 2003 as well as U.S. Patent No. 4,792,456 to Katz et al. It is my opinion that this reference is not relevant to the invention as claimed.

5. The present invention is a counterintuitive application of spray chilling techniques to form a microporous lipid coating to use as an encapsulant for a chemical leavening ingredient. A novel bread dough composition comprising such an ingredient is also provided. It is counterintuitive in that it was thought that it is not desirable to use an encapsulant with a high porosity encapsulating a chemical leavening ingredient because the encapsulant would not sufficiently protect the leavening ingredient, whether it be an acid or base in a bread dough composition.

6. It is known in the prior art to use fluid bed encapsulating techniques to coat leavening ingredients.

7. The Durkote<sup>®</sup> products referenced in the Katz reference are well known to me. It is further well known to those skilled in the art that the Durkote products used as chemical leavening agents are encapsulated by fluid bed techniques. It is known that the Durkote products are encapsulated by fluid bed techniques because personal conversations with the owner’s of this production unit, as well as documented references of the technology as outlined in US patents such as 4,497,845 and 4,511,584 (attached herewith). Fluid bed coatings are continuous and substantially non-porous encapsulants. In fluid bed and modified fluid bed technology, a substrate particle is positioned in a zone where it is suspended in an ambient atmosphere as a singular and discrete particle. Once the particle has been suspended, and microdroplet of coating material is applied to the particle. The microdroplet of coating material is generally applied at a level where it can only flow over a portion of the substrate material. A series of microdroplets follows the initial application and is required to build up successive layers of coating material to essentially seal off the substrate material from the environment. This results in an encapsulated product which has a low or controllable leach rate.

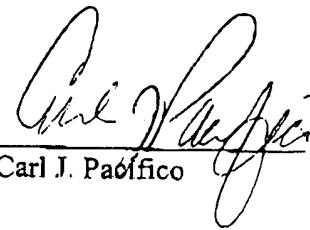
8. Fluid bed encapsulation techniques provide a fluid-tight, non-porous seal on a particulate. A continuous coating results from fluid-bed encapsulation which essentially seals off the particulate from the environment. A fluid bed coating is essentially non-porous, and therefore cannot effectively be utilized in the bread dough composition of the present invention.

### CONCLUSION

9. Based on my understanding of the cited reference, and my knowledge of the food arts and sciences, as well as known scientific principles in the field, there is no prior art disclosure which, at the time of our invention, would have suggested to the ordinary person skilled in the art that the microporous lipid coating of the present invention could effectively be made and utilized in an ingredient for leavening bread dough.

I do hereby declare that all the statements made herein of my own knowledge are true and that all statements made on my information and belief are believed to be true; and further that the statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

7/30/03  
Date

  
Carl J. Pacifico